

REMARKS / ARGUMENTS

Upon entry of this amendment, the claims pending are 1, 28, 29, 31, 32, and 52. Applicants have elected, without traverse, the claims of Group I, i.e. claims 1, 28-32, and 52, which are drawn to a Bin2 polypeptide and composition thereof. Applicants have canceled claims 33-42, 44-48, 50-51, and 53-56, which are drawn to non-elected groups, and reserve the right to prosecute these claims as well as any other non-elected deleted subject matter in a divisional application filed during the pendency of the present application. Claim 30 has been canceled in an effort to place the application in condition for allowance. Applicant reserves the right to prosecute claim 30 in a continuation application filed during the pendency of the present application. Claims 43 and 49, drawn to non-elected group IV, have been withdrawn as they are subject to rejoinder under MPEP §821.04. Applicants assert that inventorship is correct with respect to the elected claims.

The specification has been amended to correct minor spelling and grammatical errors. No new matter was introduced by these amendments. Please note that in amending the paragraph beginning on page 12, line 28 of the specification and ending on page 13, line 13 of the specification, underlining from the citation "Antibodies, A Laboratory Manual" was removed to clarify that the citation was not inserted subject matter.

The remaining claims, after entry of the election presented herein, have been amended in order to place the application in condition for allowance. Support for these amendments is found in the original specification and claims. No new matter is added by these amendments.

Applicants also confirm the Examiner's telephonic instructions on March 23, 2004, that the correct shortened statutory period for reply to this action is 3 months, not 1 month as was inadvertently reflected on the Office Action Summary.

I. Rejection under 35 USC §101

The Examiner has rejected claims 1, 28-32, and 52 under 35 USC §101 for allegedly reciting non-statutory subject matter under.

As suggested by the Examiner and in an effort to place the application in condition for allowance, Applicants have amended independent claim 1 to recite an "isolated" protein. Pending claims 28, 32, and 52 properly depend from claim 1, either directly or indirectly, and thereby include this language.

In view of this amendment, Applicants respectfully request withdrawal of this rejection.

II. Rejection under 35 USC §112, second paragraph

- A. The Examiner has rejected claims 1, 28-32 and 52 under 35 USC §112, second paragraph, as allegedly being indefinite in the recitation of "Bin2".

As suggested by the Examiner and in an effort to place the application in condition for allowance, Applicants have amended claims 1, 29, and 31 by defining the abbreviation "Bin2" in reciting "Bridging Integrator-2 (Bin2)". Pending claims 28, 32, and 52 properly depend from claim 1, either directly or indirectly, and therefore include this language.

- B. The Examiner has rejected claims 28 and 31 under 35 USC §112, second paragraph, as allegedly being indefinite and confusing for reciting "at least 8 amino acids in length".

Applicants disagree in the Examiner's assertion that the claim is indefinite and confusing. The phrase "at least 8" indicates that the peptide may be 8 or more amino acids in length. The claim also requires that the peptide comprise contiguous amino acids "within" the sequence of amino acids 1 to 13. However, in an effort to place the application in condition for allowance, Applicants have amended claim 31 to recite that "said peptide is 8 to 13 amino acids in length and comprises a sequence of contiguous

amino acids selected from within the sequence of amino acids 1 to 13 of SEQ ID NO: 2".

In view of these amendments, Applicants respectfully request withdrawal of these rejections.

III. Rejections under 35 USC §102

- A. The Examiner has rejected claims 1, 28, and 30 under 35 USC §102(e) over Sparks (U.S. Patent No. 6,309,820) as allegedly disclosing a polypeptide comprising amino acid residues 23-35 and 138-155 of SEQ ID NO: 2 of Applicants' invention.

As suggested by the Examiner at page 10 of the Office Action and in an effort to place the application in condition for allowance, Applicants have amended claims 1 and 28 by deleting any reference to fragments of Bin2. These claims as amended are now drawn to full-length Bin2 SEQ ID NO: 2, analogs or homologs of SEQ ID NO: 2, fusion proteins of SEQ ID NO: 2, and fusion proteins of analogs and homologs of SEQ ID NO: 2. Further, claim 30 has been canceled in order to place the application in condition for allowance.

- B. The Examiner has rejected claims 1, 28, 30, and 52 under 35 USC §102(b) over Prendergast I (U.S. Patent No. 5,605,830) as allegedly disclosing a polypeptide comprising amino acid residues 23-35 and 138-155 of SEQ ID NO: 2 of Applicants' invention, as well as a composition comprising the polypeptide.

As suggested by the Examiner at page 10 of the Office Action, and in an effort to place the application in condition for allowance, Applicants have amended claims 1 and 28 by deleting any reference to fragments of Bin2. These claims as amended are drawn to full-length Bin2 SEQ ID NO: 2, analogs or homologs of SEQ ID NO: 2, fusion proteins of SEQ ID NO: 2, and fusion proteins of analogs and homologs of SEQ ID NO: 2. Claim 30 has been canceled and therefore any outstanding rejections are moot. Similarly, since Claim 52 depends from claim 1, this claim does not encompass the fragments of SEQ ID NO: 2.

- C. The Examiner has rejected claims 1 and 28 under 35 USC §102(b) over Prendergast II (U.S. Patent No. 5,723,581) as allegedly disclosing a polypeptide comprising amino acid residues 23-35 of SEQ ID NO: 2 of Applicants' invention.

As suggested by the Examiner at page 10 of the Office Action and in an effort to place the application in condition for allowance, Applicants have amended claims 1 and 28 by deleting any reference to fragments of Bin2. These claims as amended are drawn to full-length Bin2 SEQ ID NO: 2, analogs or homologs of SEQ ID NO: 2, fusion proteins of SEQ ID NO:2, and fusion proteins of analogs and homologs of SEQ ID NO: 2.

In view of these amendments, Applicants respectfully request that the Examiner withdraw these rejections.

IV. Comment by the Examiner

The Examiner has alleged that the Bin2 polypeptide has "no specific defined function(s) associated with the polypeptide or the fragments" (See page 8, lines 17-18; page 9, lines 5-7 and 14-16 of the Office Action).

Applicants respectfully disagree and request reconsideration and withdrawal of these comments. Applicants point out that the specification contains numerous sections disclosing the function of the compounds of the present invention. The compounds and compositions of the invention are useful: in the "regulation of cell cycle control, cell survival, differentiation, endocytosis and actin organization, as well for diagnosis and treatment of conditions associated with aberrant cell behavior" (Specification at page 2, lines 11-14); for producing a diagnostic reagent comprising "a Bin2 nucleic acid sequence of the invention and a detectable label...", which are useful for diagnosing conditions "associated with inappropriate functional levels, the loss of expression of Bin2 or altered expression of Bin2, e.g. cancers..." (Specification at page 3, lines 20 - page 4, line 4); in identifying "compounds which specifically bind to Bin2 or which specifically inhibit or block the binding of Bin2 to its ligand" (Specification at page 5, lines 6-8); "in the screening and development of chemical compounds or proteins which have utility as

therapeutic drugs for the treatment of cancers associated with inappropriate Bin2 levels" (Specification at page 27); and in the diagnosis and treatment of blood disorders, including hepatocarcinoma. (Abstract).

In summary, Applicants have demonstrated that the claimed compounds and compositions of the present invention have utility in a wide range of functions. Accordingly, Applicants request that the Examiner reconsider and withdraw these comments.

In view of the above amendment and these remarks, Applicants respectfully request that Examiner withdraw the outstanding rejections and permit the above pending claims to pass to issue in due course.

The Director is hereby authorized to charge any deficiency in any fees due with the filing of this paper, or credit any overpayment in any fees, to our Deposit Account, Number 08-3040.

Respectfully submitted,

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